SERVICE MANUAL

MODE: MP150 spot DV

CODE: ZL-013001-01

Address:Via Svizzera,12/14,Castel Goffredo Mantova 46042 Italy

Website: *www.coef.it*

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1.0 SPECIFICTION

Lamp: HSD 150/70-12.00 lumin
16 bit movement resolution □PAN 540 /TILT 270 with automatic repositioning
optical system with 3 lenses + dichroic reflector
11 colors + white + bi-color
5 rotating metal gobos all interchangeable + 2dichroic gobo
Adjustable strobe
Rainbow effect adjustable in speed
Focus adjustable
Black light filter
Shutter motorized
Multifunction display
Remote reset via DMX
Remote ON/OFF lamp via DMX
Software upgrade via DMX (with UNI-PROG 8 Accessory)
Automatic fault survey
Internal power factor correction
DMX 512 standard
Weight: 13Kg

Power supply	Absorbed power

Volts	Hz	I	W
230V～	50Hz	0.9A	210 W

2.0 CHANNELS AND DIGITAL VALUES

CHANNEL	DMX VALUE	FUNCTION	
1	**SHUTTER-STROBO**		
	0-5	SHUTTER CLOSED	
	6-20	FLASH RANDOM FAST	
	21-40	FLASH RANDOM MEDIUM	
	41-60	FLASH RANDOM SLOW	
	61-250	STROBE SPEED ADJUSTMENT	
	215-255	SHUTTER OPEN	
2	**COLORS**		
	0-5	NEUTRAL	
	6-15	YELLOW	
	16-25	BLUE	
	26-35	MAGENTA	
	36-45	GREEN LIGHT	
	46-55	ORANGE	
	56-65	CYANO	
	66-75	PINK	
	76-85	RED	
	86-95	BLU LIGHT	
	96-105	GREEN	
	106-115	WOOD	
	116-125	WHITE-YELLOW	
	126-135	YELLOW-BLUE	
	136-145	BLUE-MAGENTA	
	146-155	GREEN LIGHT - ORANGE	
	156-165	ORANGE - CYANO	
	166-175	CYANO - PINK	
	176-185	RED - BLUE LIGHT	
	186-195	BLUE LIGHT - GREEN	
	196-200	RANDOM FULL-COLOR (fast)	
	201-205	RANDOM FULL-COLOR (slow)	
	206-225	CW ROTATION ADJUSTMENT	
	226-245	CCW ROTATIC	
	246-255	RAINBOW EFFECT	
3	**GOBOS**		
	0-10	NEUTRAL	
	11-23	GOBO 1	Channel 4 control rotation
	24-36	GOBO 2	Channel 4 control rotation
	37-49	GOBO 3	Channel 4 control rotation
	50-61	GOBO 4	Channel 4 control rotation
	62-74	GOBO 5	Channel 4 control rotation
	75-87	GOBO 6	Channel 4 control rotation
	88-100	GOBO 7	Channel 4 control rotation
	101-113	GOBO 1	Channel 4 control position
	114-126	GOBO 2	Channel 4 control position
	127-139	GOBO 3	Channel 4 control position
	140-151	GOBO 4	Channel 4 control position
	152-164	GOBO 5	Channel 4 control position
	165-177	GOBO 6	Channel 4 control position
	178-190	GOBO 7	Channel 4 control position
	191-198	GOBOS	Random FAST
	199-205	GOBOS	Random SLOW
	206-230	CCW	Rotation Adjustment
	231-255	CW	Rotation Adjustment
4	**GOBOS ROTATION**		
	0-5	STOP	
	6-130	CW	Rotation speed adjustment of the gobo (if he value of the channel 3 is from 11 to 100)
	131-255	CCW	Rotation speed adjustment of the gobo (if he value of the channel 3 is from 11 to 100)
	6-255	GOBOS POS.	Rotation speed adjustment of the gobo (if he value of the channel 3 is from 101 to 190)
5	**PAN MOVEMENT**		
6	**PAN MOVEMENT FINE ADJUSTMENT**		
7	**TILT MOVEMENT**		
8	**TILT MOVEMENT FINE ADJUSTMENT**		
9	**MOVEMENTS TIME ADJUSTMENT** (for use this channel set CH8/9 to 9 channels)		
	0-5	NO DELAY	
	6-250	ADJUSTMENT DELAY	
	251-255	MAX DELAY	

CH	8 CHANNELS	9 CHANNELS
3	GOBOS 0-10 Neutral 11 - 20 GOBO1 chann.4 controls rotation 21 - 30 GOBO2 chann.4 controls rotation 31 - 40 GOBO3 chann.4 controls rotation 41 - 50 GOBO4 chann.4 controls rotation 51 - 60 Reduction 61 - 70 GOBO5 chann.4 controls rotation 71 - 80 GOBO6 chann.4 controls rotation 81 - 90 GOBO7 chann.4 controls rotation 91 - 100 GOBO8 chann.4 controls rotation 101 - 110 GOBO1 chann.4 controls position 111 - 120 GOBO2 chann.4 controls position 121 - 130 GOBO3 chann.4 controls position 131 - 140 GOBO4 chann.4 controls position 141 -150 GOBO5 chann.4 controls position 151 - 160 GOBO6 chann.4 controls position 161 - 170 GOBO7 chann.4 controls position 171 - 180 GOBO8 chann.4 controls position 181 - 193 GOBOS Fast random 194 - 205 GOBOS Slow random 206 - 230 CW Rotation adjustment 231 - 255 CCW Rotation adjustment	GOBOS 0-10 Neutral 11- 20 GOBO1 chann.4 controls rotation 21 - 30 GOBO2 chann.4 controls rotation 31 - 40 GOBO3 chann.4 controls rotation 41 - 50 GOBO4 chann.4 controls rotation 51 - 60 Reduction 61 - 70 GOBO5 chann.4 controls rotation 71 - 80 GOBO6 chann.4 controls rotation 81 - 90 GOBO7 chann.4 controls rotation 91 - 100 GOBO8 chann.4 controls rotation 101 - 110 GOBO1 chann.4 controls position 111 - 120 GOBO2 chann.4 controls position 121 - 130 GOBO3 chann.4 controls position 131 - 140 GOBO4 chann.4 controls position 141 - 150 GOBO5 chann.4 controls position 151 - 160 GOBO6 chann.4 controls position 161 - 170 GOBO7 chann.4 controls position 171 - 180 GOBO8 chann.4 controls position 181 - 193 GOBOS Fast random 194 - 205 GOBOS Slow random 206 - 230 CW Rotation adjustment 231 - 255 CCW Rotation adjustment
4	GOBOS ROTATION 0 - 5 STOP 6 - 255 From 0 to 540° GOBO positioning 6 - 130 CW Rotation adjustment of the GOBO 131 - 255 CCW Rotation adjustment of the GOBO	GOBOS ROTATION 0 - 5 STOP 6 - 255 From 0 to 540° GOBO positioning 6 - 130 CW Rotation adjustment of the GOBO 131 - 255 CCW Rotation adjustment of the GOBO
5	PAN MOVEMENT	PAN MOVEMENT
6	PAN MOVEMENT FINE ADJUSTMENT	PAN MOVEMENT FINE ADJUSTMENT
7	TILT MOVEMENT	TILT MOVEMENT
8	TILT MOVEMENT FINE ADJUSTMENT	TILT MOVEMENT FINE ADJUSTMENT
9		DIMMER 0 - 10 DIMMER CLOSED 11 - 250 DIMMER Adjustment 251 - 255 DIMMER OPEN WARNING: position CHANNEL 1 at a value between 6 and 100, in order to control DIMMER with this channel.

SPECIAL ACTION

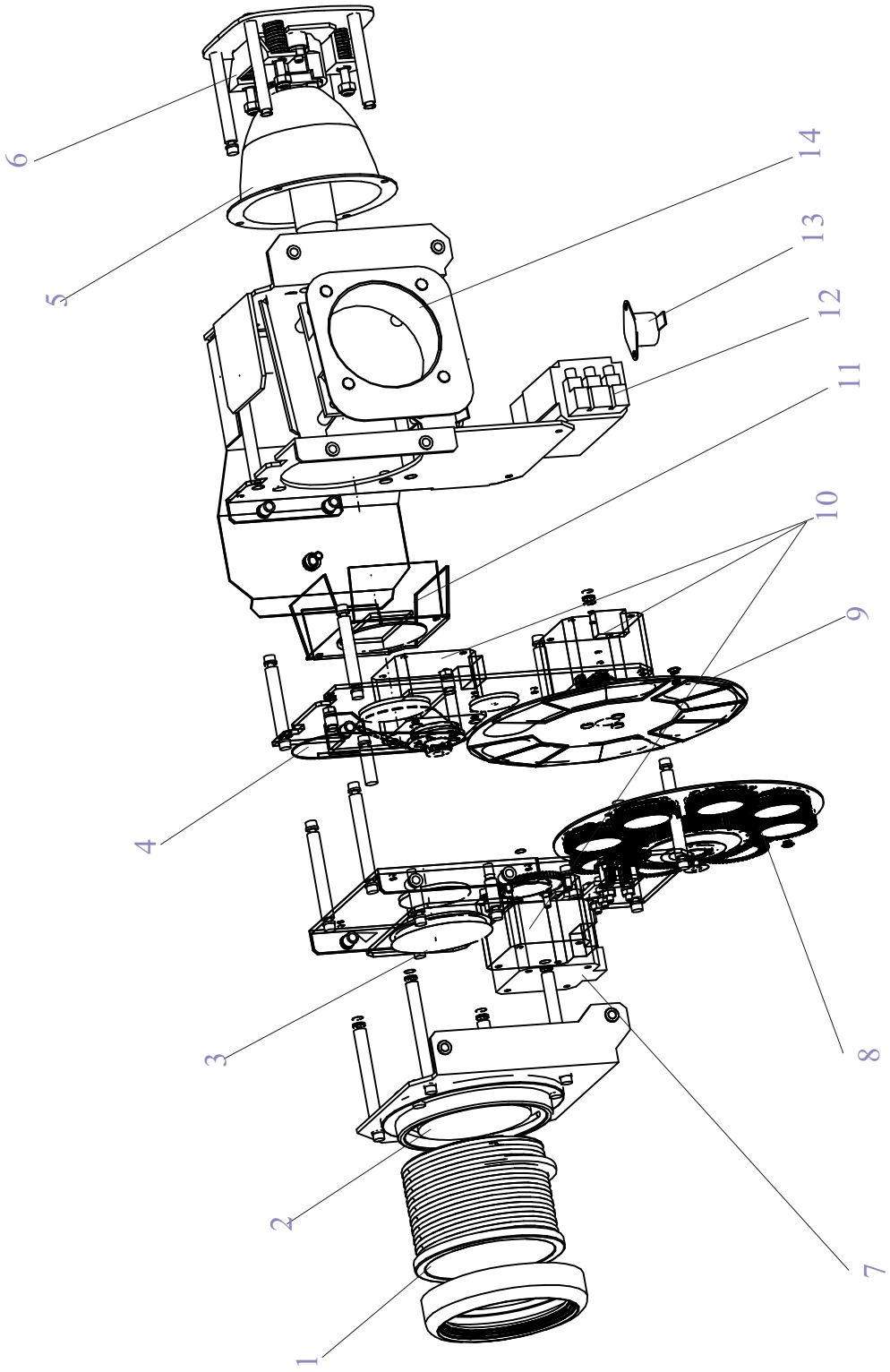
When the lamp control via DMX(CDMX) and the RDMX function have been activated in the configuration menu. It is possible, by a combination of the channels values, to control the lamp switch ON/OFF or to allow the projector MASTER RESET.

Lamp ON via DMX:
CHANNEL 2= value0
CHANNEL 3 and CHANNEL4= value 0 > 255 > 0

Lamp OFF via DMX:
CHANNEL2 =value255
CHANNEL3 and CHANNEL4=value 0 > 255 > 0

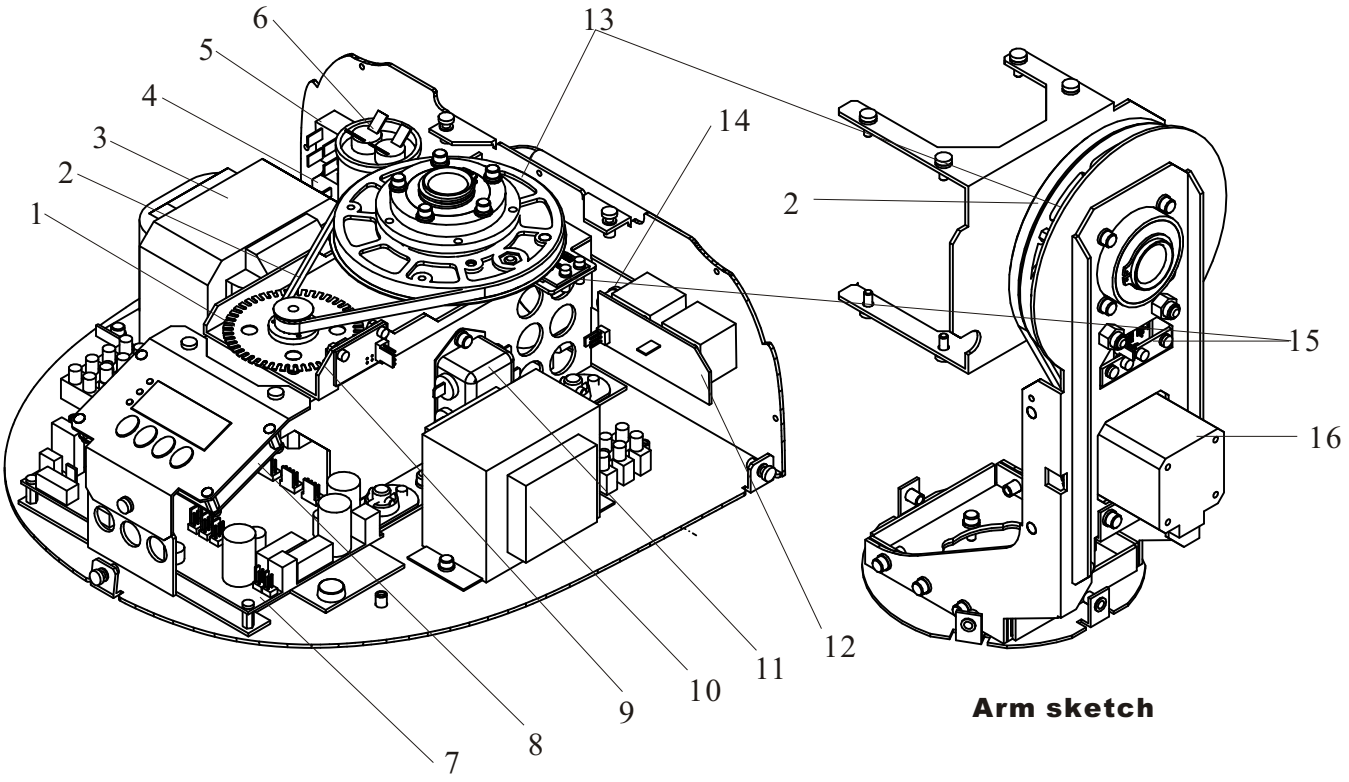
MASTER RESET:
CHANNEL1=value0
CHANNEL 2 and CHANNEL3=value 0 > 255 > 0

3.0 ASSEMBLY SKETCH



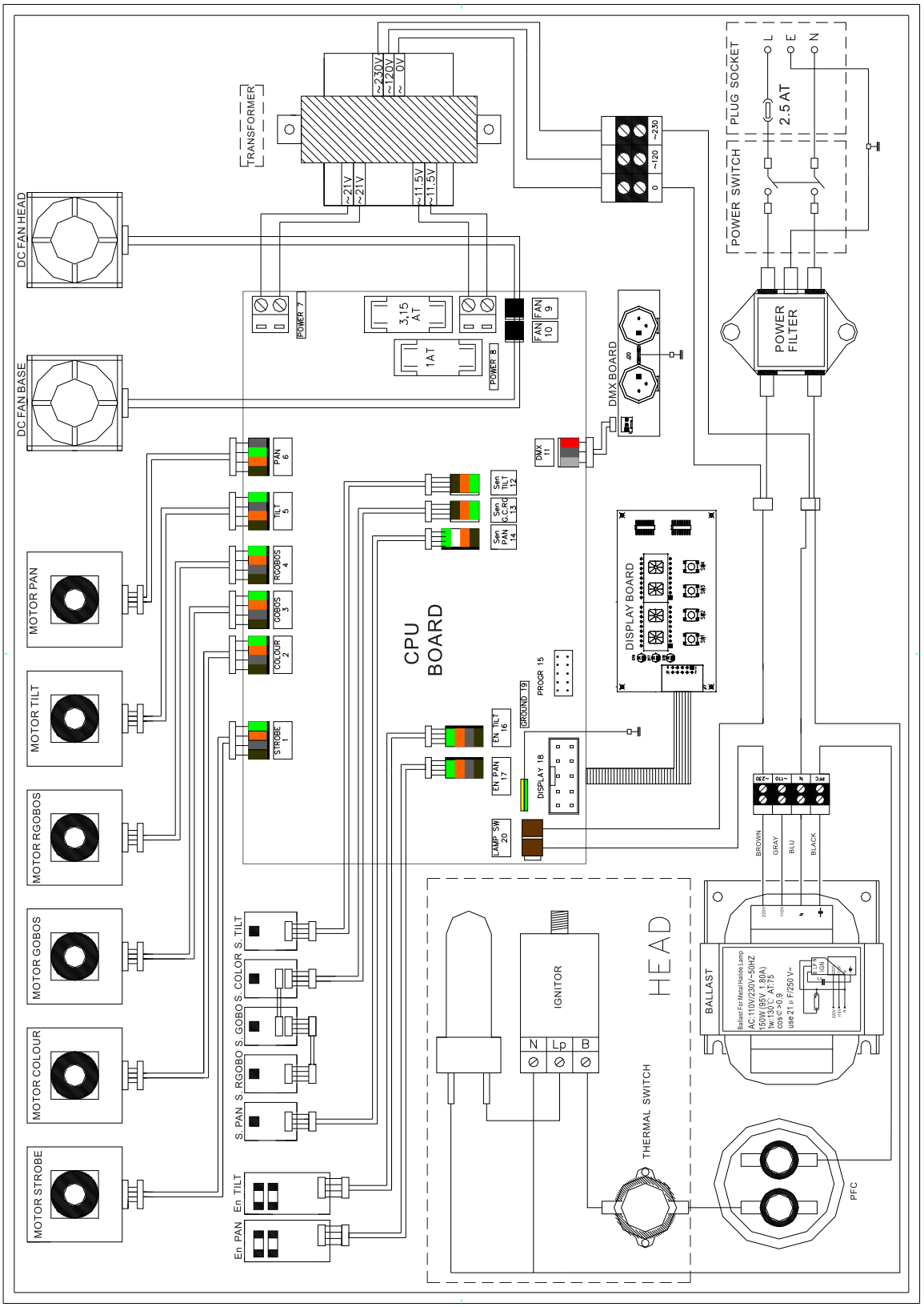
Head sketch

CONTINUE

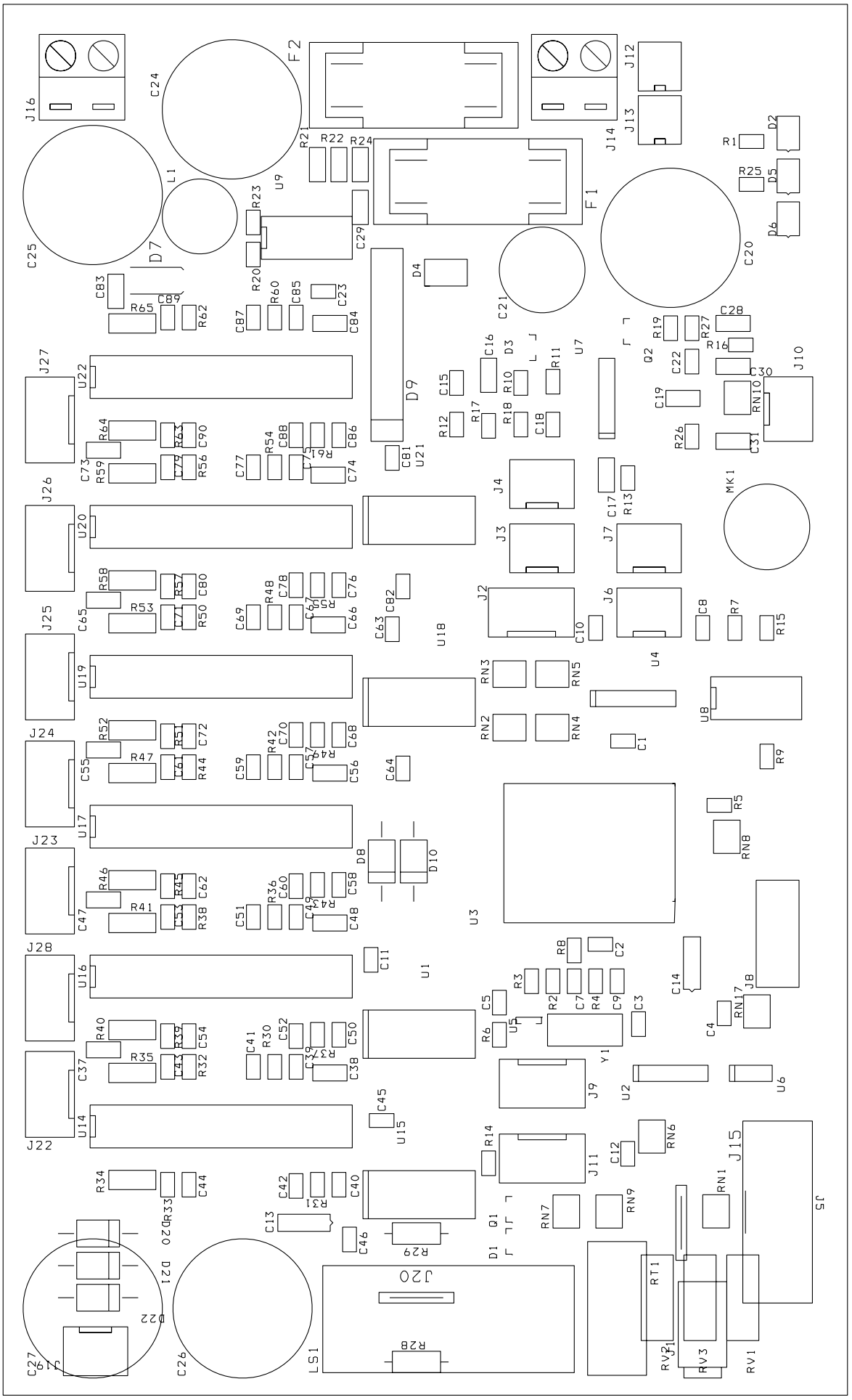


BOTTOM SKETCH

4.0 WIRE CONNECT DIAGRAM



5.0 PCB COMPONENT LOCATION DRAWING



6.0 ASSEMBLY PARTS LIST

(Head)

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	128-0210000001	lens	Φ70 (0□/350□)	1
2	617-0130010000	lens assembly	Φ56 (0□/500□)	1
3	617-0130010001	lens assembly	Φ50(-250□/1200□)	1
4	610-0130010000	shutter/strobe blade	91*40*0.5	1
5	623-0130010000	reflector	Φ85* Φ*27*57	1
6	126-0133001001	lampholder	G12 D-171B 6A 1000V L=280mm	1
7	605-0000000019	step motor	MH17H101-20	1
8	618-0130010001	gobo wheel assembly	Φ133	1
9	611-0130010000	color wheel assembly	Φ138*1.0	1
10	605-0000000024	step motor	MH17H101-10	3
11	624-0130010000	anti-heat filter assembly	1.0mm	1
12	088-5001063400	ignitor	4-5KV,5A HQCD-7	1
13	066-1120010000	safety thermic switch	120℃	1
14	083-0260000000	fan	DC12V KD1206PTS L=330mm	1

continue

Bottom

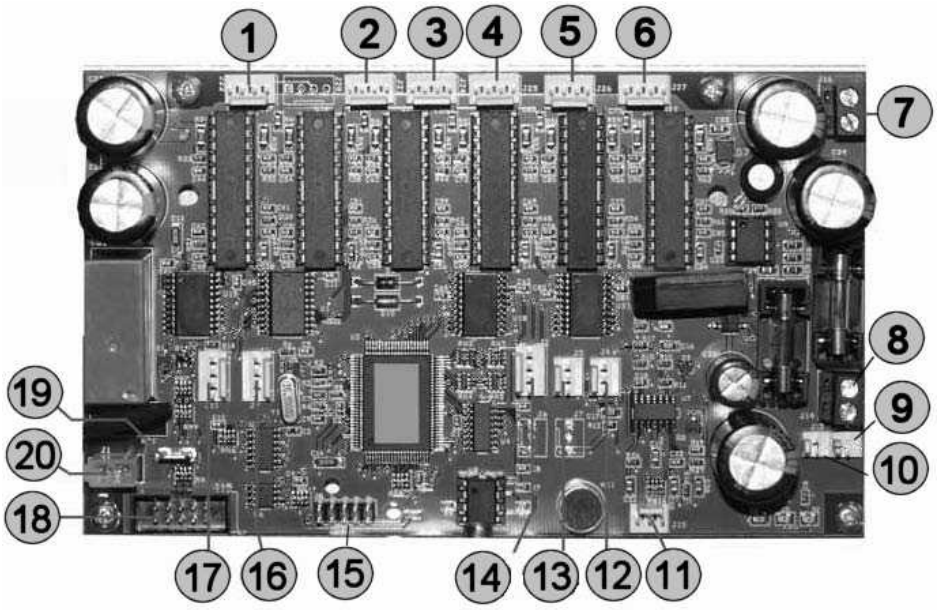
R/N	P/N	PART NAME	DESCRIPTION	QUA
1	632-0130010000	measure place wheel	ϕ70*0.5	2
2	393-0103044706	step belt	HTD 447 3M6 CXP Ⅲ	2
3	119-0111000300	ballast	220V/110V 50HZ 1.8A 150W	1
4	044-1000000000	power socket	220V R-3013	1
5	041-2273000000	power switch	AC250V 16（4A）22*30	1
6	013-2000041000	capacitor	20UF J AC250V	1
7	088-5013001030	CPU pcb loaded	824B268725 160.15*95.35mm	1
8	088-5013001350	display pcb loaded	824B26873S 95.26*52.05mm	1
9	088-5013001491	optical sensor	23.18□17.15mm	1
10	022-1014022255	transformer	IN120V/230V21V2.0A)11.5V 1.2A	1
11	029-2100000000	AC-filter	110/250VAC/50-60HZ 6A	1
12	088-5013001130	DMX connect pcb loaded	824B2687AS 69.25*29.95mm	1
13	631-0130010000	plastic gear assembly	ϕ114*9 120teeth	2
14	083-0270000000	fan	DC12V KDE1206PTVX L=120mm	1
15	088-5013001480	encoder sensor pcb loaded	04B498 L35.08*21.27mm	2
16	605-0000000020	step belt	MH17H301-20	2

7.0 ELECTRONIC MAINTENANCE

This section is dedicated in detail to the electronic connection between the card and the mechanical components,assembled in the projector .These informations will be absolutely necessary when the mechanical unit has to be removed from the projector for maintence and/or repair.

The connections are made using handy connectors and are detailed where you can find indications about the connection beteween a specific connector and specific component of the mechanical unit. This includes the motors and the sensors of the various effects wheels(color,gobos,shutter etc.)

WARNING! An improper use of this documentation made by not specifically qualified staff can damage irremediably theelectronic and/or mechanical components of the projector



1	Motor SHUTTER / STROBE	11	DMX in
2	Motor COLOR	12	Sensor TILT
3	Motor GOBOS	13	Sensor GOBOS / COLOR / GOBOR
4	Motor GOBOS ROTATION	14	Sensor PAN
5	Motor TILT	15	NC FACTORY USE
6	Motor PAN	16	Encoder TILT
7	Power Supply 21V~	17	Encoder PAN
8	Power Supply 11,5V ~	18	DISPLAY CARD
9	Fan BASE	19	GROUND
10	Fan HEAD	20	Lamp ON / OFF

8.0 ORDINARY MAINTENANCE

Ordinary maintenance on the projector Mp150 spot DV is necessary to maintain the perfect efficiency of the unit and to avoid defects like the low luminosity of the light beam or the elevated overheating of the equipment

In the figures you can see those components that can easily accumulate dust and grease. Clean them using a soft cloth and common glass-cleaners.

9.0 EXTRAORDINARY MAINTENANCE

WARNING: switch off the projector before operating

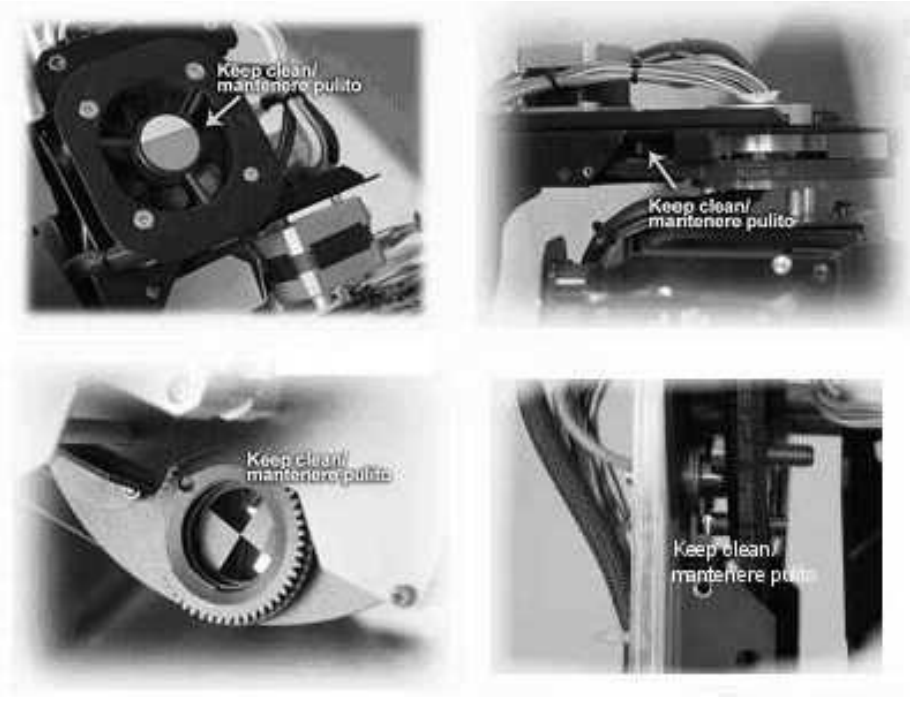
To make an extraordinary maintenance, it is necessary the presence of a generic or qualified mechanical operator, according to the type of the needed intervention.

Open the cover of **MP150 Spot** by the 6 screw **(A)**.

Clean carefully the indicated parts.

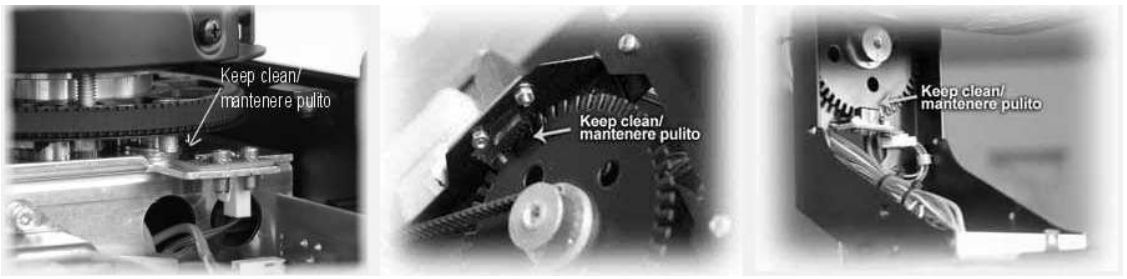
After had access to the inside part of the projector(unscrew the 5 screw(A) to take out the cover of the base to enter the sensors of the PAN movement)special caution will be dedicated to the sensors that put on a fundamental role in the operation of the equipment. The sensors are indispensable in the moment of the general reset of the projector, function that if not perform correctly, harms in total manner the normal Operation of the projector, at least for what pertains the group associated to the sensors.

Maintain clean also all the openings that allow the convey of the flows of air destined to the ventilation forced. The fan are in general a catalysts for dust and fat and when these deposet themselves On the pale of the same fan, the values and the essential features change themselves and compromise the good operation of the component destined to the cooling.



For the access to the parts of the arm (partcularly are present the sensors dedicated to the TILT movement) unscrew the lives(B) and dismiss the cover in plastic of the arm.

The sensors of the relevant encoder of the PAN and TILT movements are located respectively in the base and in the arm of the Mp150 spot DV. The images illustrate clear these components and where to intervine with precision for the intervention of maintence



10.0 TROUBLE SHOOTING

PROBLEM	CAUSE	ACTION
The Projector doesn't switch on	-The power supply is not present	Check if the luminous indicator is lighted or not.
	-The lamp is not working	Replace the lamp.
	The thermal switch is active	Just to wait for little of time
The projector switches on but doesn't answer to commands	-Wrong DMX configuration	Make sure that the projector is correctly configurated.
	-Defective cables	Replace or repair the DMX CABLE
	-Defective control unit	Check the control unit by means of other working projectors Technical aid is required.
	LED A is off	Check the control unit&DMX cable
Defecting projection	-The lens is broken	Check that the lens are not broken
	-Dust or grease stored on the all parts of projector	Remove dust or grease stored on lenses
Projectionb with halo	- - Dust or grease stored on the all parts of projector	Carefully clean the optical group lenses and the projector components
The color or other effects does not coincide to the selected value.	-Position senser dirty with dust or grease	Carefully clean the optical group lenses and the projector components.
	- Defective motor - Electronic board	Technical aid is required.
The PAN movement does not coincide to the selected value	- Position senser dirty with dust or grease	Carefully clean the optical group lenses and the projector components
	- Defective Motor - Electronic board	Technical aid is required

COSTOMER SUPPORT REQUEST FORM

If you have any technical problem/malfunction and you need support, please fill in the following form and send it by fax or e-mail directly to **International Technical and Service Department**

The fax number is **+086 0755 8209 0203**， the e-mail address is sales@coef.itFor a better problem comprehension you should fill in all the fields requested

Thank you.

Company name: _____

Contact person : _____ fax: _____

tel: _____ e-mail：_____

Product indentification

Product name	code number (*)	serial number

Time in use before fault: _____

Date of shipment to distributor: _____

Date of shipment to end user: _____

Operating conditions: _____

Mains supply voltage(volt): _____ main supply frequency(hertz): _____

Ambient temperature(_____ Operating position: _____

Lamp type and manufacturer _____

Used in: ☐ disc, ☐ theatre, ☐ rental, ☐ other

Detailed description of product problem/requirement